

ABSTRACT

In traditional ultrasound applications the transmit signal is a short series of constant amplitude pulses. The pulses are 50 percent duty cycle and constitute a single frequency. The amplitude must be very consistent or system performance will suffer. Modern ultrasound requires shaping the transmitter beam by applying different amplitudes to an array of elements. However, the need to change voltage from one series to the next can cause problems with the electronics associated with the transmission. One problem is there is not enough time for the voltage to settle from one series to the next. This has the effect of causing artifacts in the image. One means of overcoming the problems is to hold the voltage constant and modify the modulation of the series of pulses to achieve the different power levels.